

#### MEDICAL DEVICE HAVING INTEGRAL TRACES AND FORMED ELECTRODES

A catheter or lead having electrically conductive traces and external electrical contacts. Each trace may be in electrical connection with one or more external electrical contacts. More specifically, each trace is typically electrically connected to a single contact. The traces and contacts may assist in diagnosis and/or detection of bio-electrical signals emitted by organs, and may transmit such signals to a connector or diagnostic device affixed to the catheter. The external electrical contacts may detect bioelectric energy or may deliver electrical energy to a target site.